

## HST Observations of Jupiter's UV Aurora Simultaneous with GALILEO Measurements

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We have obtained WFPC 2 images and GHRS spectra of Jupiter's aurora overlapping with GALILEO UVS spectra and in situ particles and fields measurements over 23-29 June 1996. These observations covered periods when the GALILEO was inbound from the dawn side of Jupiter, and roughly 46 to 18 Jupiter radii from the planet. The WFPC 2 images appear similar to earlier reported auroral images, with the main oval at the same location observed over the last 2 years, rapidly variable emission poleward of the main oval, and the Io footprint with a similar longitudinal offset from the local magnetic field. Spectra were obtained of aurora on the northern limb, poleward of the northern main oval, and of the northern Io footprint. The aurora were brighter than average during the GALILEO G1 flyby, with several interesting structures that were observed both in WFPC 2 images and in the UVS time series spectra. There is evidence for a dawn auroral storm on 23 June, and more emission was observed at latitudes just equatorward of the main ovals than previously seen, in both the north and south. The HST images and spectra will be presented with initial estimates of the Io footprint locations with respect to the local magnetic field and the auroral color ratios. This work was supported by NASA under contract JPL 959122 and grant GO-3511.01-91A to the University of Michigan.

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